Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JARED W. PERDUE, P.E.
SECRETARY

August 21, 2025

Daniel Holt, PE, PTOE
Director, Project Delivery
Director, Technical Services
FHWA
400 West Washington Street, Suite 4200
Orlando, FL 32801

Re: State Specifications Office
Section: 660
Proposed Specification: **6600202 Vehicle Detection System**

Dear Mr. Holt:

We are submitting, for your approval, two copies of the above referenced Supplemental Specification.

The changes are proposed by Ronald Meyer to correct terminology of "stop line" and indicate that WWVDS may be used to monitor other roadway segments in addition to ramps.

Please review and transmit your comments, if any, within two weeks (10 business days). Comments should be sent via email daniel.strickland@dot.state.fl.us.

If you have any questions relating to this specification change, please call me at (850) 414-4130.

Sincerely,

Signature on File

Daniel Strickland, P.E.
State Specifications Engineer

DS/jb
Attachment
cc: Florida Transportation Builders' Assoc.
State Construction Engineer

VEHICLE DETECTION SYSTEM
(REV 6-29-25)

SUBARTICLE 660-2.2.1.1.2 is deleted and the following substituted:

660-2.2.1.1.2 Advance Detectors: Advance detectors are designed to detect vehicles at variable distances upstream of an intersection stop line~~bar~~.

SUBARTICLE 660-4.4 is deleted and the following substituted:

660-4.4 Wrong Way Vehicle (WWVDS) Detection System: Submit a test plan for the field acceptance test (FAT) to the Engineer a minimum of 30 calendar days before commencement of testing for review and approval; tests cannot commence or be scheduled until test plans are approved by the Engineer. For each testing phase, test plans must include descriptions of test procedures; test form with areas for test result recording, test conductor, and witness signatures; pass/fail criteria; and test schedule.

Conduct a field acceptance test for each ~~ramp~~ location being monitored by a WWVDS. Test all local system functions using the installed WWVDS equipment as detailed in the Plans and as approved by the Engineer. Testing must demonstrate that:

1. All wiring and local configurations are correct.
2. The WWVDS is detecting vehicles driving the wrong way, in all monitored ~~ramp travel~~ lanes and any paved shoulders 8 feet or wider, while ignoring vehicles traveling in the correct direction. A true positive rate of 95% or greater must be achieved. A false positive rate of 1% or less must be achieved.
3. The WWVDS is activating all wrong way highlighted signs at each location ~~on the ramp~~ upon detection of a vehicle traveling in the wrong direction and sign activation occurs before the vehicle reaches the sign.

If any WWVDS fails to pass its field acceptance test, correct the unit, or substitute another unit in its place, then repeat the test.

If a unit has been modified due to a field acceptance test failure, prepare a report describing the nature of the failure and the corrective action taken and submit it to the Engineer prior to re-testing. If a failure pattern develops, the Engineer may direct ~~that~~ design and construction modifications be made to all units on the project without additional cost to the Department or extension of the Contract Time.

660-4.4.1 True Positive Testing: Conduct this test ~~on a closed ramp~~ using Contractor-provided test vehicles. Close and ~~T~~test each lane and paved shoulder 8 feet or wider on ramps by driving two types of test vehicles traveling at two travel speed ranges the wrong direction. For this testing, the small vehicle shall be a FHWA Class Group 2 (passenger car) vehicle, and the large vehicle shall be a FHWA Class Group 3 (pick-ups and vans) or Class Group 5 (two-axle truck) vehicle.

Each ramp lane shall be subjected to the following test vehicle runs; each ramp paved shoulder 8 feet or wider must only undergo test runs described in #1 and #2.

1. Five runs of a small vehicle traveling between 10 and 15 miles per hour.
2. Five runs of a large vehicle traveling between 10 and 15 miles per hour.
3. Five runs of a small vehicle traveling 35 miles per hour or greater.

4. Five runs of a large vehicle traveling 35 miles per hour or greater.

Calculate the true positive rate using the following formula:

$$TPR = {}^{TP}/_{N} * 100$$

Where *TPR* = True positive rate %.

TP = Cumulatively for all test runs, the total number of times the WWVDS correctly detected the wrong way vehicle and activated the highlighted signs.

N = Total number of test vehicle runs.

For other road segments, perform true positive testing in accordance with the approved FAT.

660-4.4.2 False Positive Testing: Conduct this test ~~on a ramp~~when lanes are open to the traveling public. Test the WWVDS by monitoring a minimum of 300 total vehicles traveling in the correct direction of travel passing through the WWVDS detection zones. At least 150 vehicles shall be monitored during daylight hours and at least 150 vehicles shall be monitored at night. The Engineer may reduce minimum volume requirements under low volume conditions if necessary.

Calculate the false positive rate using the following formula:

$$FPR = {}^{FP}/_{N} * 100$$

Where:

FPR = False positive rate %.

FP = Total number of times the WWVDS activated for a vehicle traveling in the correct direction.

N = Total number of vehicles traveling in the correct direction.

ARTICLE 660-6 is deleted and the following substituted:

660-6 Method of Measurement.

The quantity to be paid will be the plan quantity for each inductive loop detector and per assembly for loop assembly completed and accepted.

The quantity to be paid will be the plan quantity for each MVDS, VVDS, WMDS, AVI, WWVDS, or LiDAR VDS completed and accepted.

The highlighted signs for a WWVDS will be paid for in accordance with Section 700. Only one WWVDS will be paid per ~~exit ramp~~location (e.g., ramp or road segment), regardless of the number of signs.

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For other road segments, perform true positive testing in accordance with the approved FAT.

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